

REMARKS

This is in response to the Non-Final Office Action dated May 28, 2004. Applicant respectfully traverses and requests reconsideration.

Allowable Subject Matter

Claims 1 through 28 are pending. Applicant acknowledges the allowance of claims 1 through 7 and claims 16 through 28 if corrected to overcome the objections set forth in the Office Action. Applicants also acknowledge that claims 11 through 15 are allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. Applicant wishes to thank Examiner Nguyen for the Examiner interview on August 18, 2004 and for an indication that the amendment to claim 8 including the limitations of claim 11 overcomes the present rejections.

Claims 9, 10, 14 and 15 are amended into independent form. Claim 12 is amended to reflect the amendment to claim 8. Claim 11 is canceled. Further, amendments to the specification are made to correct typographical errors.

Summary of Rejections

Claims 1, 8, 14, 15, 20 and 28 are objected to due to an informality. The Office Action requests changing "capable of" to "for" as recited in some parts of some claims.

Claim 8 is rejected under 35 U.S.C. §102(b) based on United States Patent No. 6,353,906 (Smith). Claims 9 and 10 are rejected under 35 U.S.C. §103(a) based on Smith in view of United States Patent No. 6,480,800 (Molyneaux).

Smith

Smith is directed to testing synchronization circuitry using digital simulation (Smith, title). Fig. 5 illustrates a synchronization clock circuit 100. (Smith, col. 5, lines 49-50.) Smith seeks to solve the problem in the design and simulation of a digital circuit that where a nonsynchronized signal crosses from one clock domain to another clock domain, transitions in the signal can create timing violations on the receiving side. (Smith col. 2, lines 31-34.) The synchronization protocol taught by Smith ensures that the nonsynchronized signals are sampled

only when they are stable, yet bugs arising in this regard may be overlooked by the usual testing practices. (Smith col. 2, lines 33-38.) The synchronization logic model uses randomization to emulate the certainty in synchronization clock detail time exhibited in actual circuits. (Smith col. 2, lines 62-65.) A random logic source 112 provides for random selection between the first input 106 and the second input 110 to the multiplexer, so that the multiplexer output mode 114 reflects the asynchronous input signal 102 selectably delayed by either 0 or 1 clock cycle. (Smith col. 5, lines 56-61.)

Claim Objections/Minor Informalities

According to the Office Action, claims 1, 8, 14, 15, 20 and 28 are objected to because of an informality. The Office Action suggests a change of "capable of" to "for" to recite positive limitation. For example, the Office Action suggests changing "capable of" in claim 1, line 4. The claim language recites "a first flip flop having an input port capable of receiving an input signal, an output port capable of providing a flip flop output signal and a timing port capable of receiving an incoming clock signal." In the first occurrence, the claim language recites "an output port capable of providing a flip flop output signal." Thereby, the claim recites a positive limitation, namely, "an output port capable of providing a flip flop output signal." Accordingly, the claim positively recites an output port. Further, the claim language recites "an output port capable of providing a flip flop output signal." As a result, the output port is capable of providing a flip flop output signal. Applicant further notes that the Office Action describes the objection merely as a minor informality, and in that case the claim complies with both the patent rules and code. Furthermore, changing the claim language "capable of" to "for" does not appear to more positively recite limitations in the claims.

Claim Rejections under 35 U.S.C. §102

Claim 8 is rejected under 35 U.S.C. §102(b) based on Smith. In view of the agreement reached during the Examiner interview of August 18, 2004, the amendment to claim 8 overcomes the current rejections.

Since the Office Action indicates that Claim 11 is allowable, claim 8 amended to include the limitations of claim 11 overcomes the current rejections.

Claim Rejections under 35 U.S.C. §103

Claims 9 and 10 are rejected under 35 U.S.C. §103(a) based on Smith in view of Molyneaux. In view of the agreement reached on August 18, 2004 during the examiner interview the amendment to claim 8 overcomes the current rejections. Further, claims 9 and 10 add further novel and non-obvious subject matter not included in claim 8.

Measuring a claimed invention against the standard established in §103 requires the difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field.¹ Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher."² The showing of such a suggestion, teaching or motivation must be clear and particular.³

The Office Action acknowledges that Smith fails to disclose "a pseudo-random input generator operably coupled to the first flip flop, such that the pseudo-random input generator generates the input signal." (Office Action p. 3, para 5.) According to the Office Action, Molyneaux discloses in col. 3, lines 14-30 semiconductor technology in which rigorous design verification and manufacturing testing employs pseudo-random input generators. However, Molyneaux also teaches "although random input testing with a golden model is considered a rigorous test regime that ultimately results in a robust design, the need for a golden model and the problems associated with a golden model-some of which are discussed briefly above-have presented a major drawback to random input stimuli testing and verification." (Molyneaux col. 3, lines 35-40.) (emphasis added.)

According to the Office Action, "To reconfigure the apparatus of Smith et al. with a pseudo-random input generator as taught by Molyneaux et al. for the capability of handling rigorous testing would have been obvious to one of ordinary skill in the art at the time of the

¹ *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983).

² *Id.*

³ *Dembiczak*, 50 U.S.P.Q.2d 164, 167 (Fed. Cir. 1999). See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998).

invention since the pseudo-random input generator could manage the sheer volume of tests with minimal problems (see Molyneaux et al. col. 3, lines 14-30)." (Office Action pp. 3-4 para. 5.) However, contrary to the assertion in the Office Action, Molyneaux teaches that such a method results in problems that "have presented a major drawback to random input stimuli testing and verification." (Molyneaux col. 3, lines 37-40.) As a result, Molyneaux teaches away from a rigorous test regime and as such teaches away from the claims. Further, the assertion in the Office Action that implementing a rigorous test regime with a pseudorandom input generator would result in minimal problems is contradicted by the explicit language in Molyneaux. Accordingly, Molyneaux teaches away from the claims, and therefore one would not be motivated to modify Smith in the manner as suggested in the Office Action.⁴ Further yet, the Office Action provides no support for the assertion that the use of a pseudo random input generator could manage the sheer volume of tests with minimal problems.

The office action therefore fails to establish sufficient motivation for one skilled in the art to modify Smith, and as a result the Office Action fails to establish a *prima facie* case of obviousness.

Dependent Claim 10

Regarding claim 10, it is submitted that the claim contains further patentable subject matter in view of the combination of Smith and Molyneaux. Applicant respectfully resubmits at least the above-offered reasons regarding claims 8 and 9 and submit that claim 10 adds further claimed limitations not disclosed by the combination of Smith and Molyneaux. Further, claim 10 adds additional claim limitations not disclosed by the combination of Smith and Molyneaux to the extent that they can be combined.

⁴ A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983). See M.P.E.P. §2141.02.

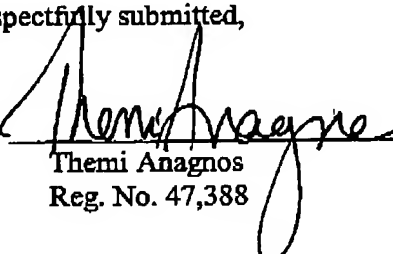
CONCLUSION

The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

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Respectfully submitted,

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